

National Semiconductor Corporation
Cumberland County
South Portland, Maine
A-698-71-N-A (SM)

Departmental
Findings of Fact and Order
Air Emission License
Amendment #1

After review of the air emission license minor modification application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

National Semiconductor Corporation (National Semiconductor) of South Portland, Maine was issued Air Emission License A-698-71-L-R on March 11, 2003 permitting the operation of emission sources associated with their silicon wafer manufacturing facility.

National Semiconductor has applied to amend their Air Emission License to permit the installation and operation of a new 500 kW emergency generator.

B. Revised Emergency Generator Table

Emergency Diesel Generators

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, % Sulfur</u>	<u>Maximum Firing Rate (gal/hr)</u>
Generator 1	5.5	diesel, 0.05%	40.2
Generator 2	14.6	diesel, 0.05%	106.7
Generator 3	18.8	diesel, 0.05%	137.4
Generator 4	4.4	diesel, 0.05%	32.0
Generator 5	5.37	diesel, 0.05%	38.9

Bold depicts new equipment.

C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. This modification is determined to be a minor modification and has been processed as such.

II. BEST PRACTICAL TREATMENT

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

A. Emergency Generator 5

Emergency Generator 5 has a heat input of 5.37 MMBtu/hr and a power rating of 750 HP. BACT for Generator 1 is the following:

1. Operational limit of 500 hours/year.
2. MEDEP Chapter 106 regulates fuel sulfur content, however the use of 0.05% sulfur by weight fuel is BACT.
3. SO₂ emission data was based on fuel sulfur mass balance.
4. NO_x, CO and VOC emission limits are based upon AP-42 data dated 10/96 for diesel engines larger than 600 horsepower.
5. PM and PM₁₀ emission rates were based upon BACT of 0.10 #/MMBtu.
6. Opacity from Emergency Generator 5 shall not exceed 20% on a six (6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.

B. Facility Emissions

Total facility emissions will remain as currently licensed:

Total Allowable Annual Emissions for the Facility
(used to calculate the annual license fee)

Pollutant	Tons/year
PM	99.9
PM ₁₀	99.9
SO ₂	99.9
NO _x	99.9
CO	99.9
VOC	25 process equip 20 fuel burning
Single HAP	9.9
Total HAP	24.9

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-698-71-N-A subject to the conditions found in Air Emission License A-698-71-L-R, and in the following conditions:

The following shall replace Condition 18 of Air Emission License A-698-71-L-R:

(18) Emergency Diesel Units

A. Emissions from Generator 1 shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.12	0.66
PM ₁₀	n/a	0.66
SO ₂	n/a	0.28
NO _x	n/a	14.57
CO	n/a	0.55
VOC	n/a	0.06

B. Emissions from Generator 2 shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.10	1.46
PM ₁₀	n/a	1.46
SO ₂	n/a	0.75
NO _x	n/a	59.57
CO	n/a	5.57
VOC	n/a	0.74

C. Emissions from Generator 3 shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.10	1.88
PM ₁₀	n/a	1.88
SO ₂	n/a	0.96
NO _x	n/a	72.40
CO	n/a	5.26
VOC	n/a	1.09

D. Emissions from Generator 4 shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.10	0.44
PM ₁₀	n/a	0.44
SO ₂	n/a	0.23
NO _x	n/a	22.30
CO	n/a	10.60
VOC	n/a	0.05

E. Emissions from Generator 5 shall not exceed the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.10	0.54
PM ₁₀	n/a	0.54
SO ₂	n/a	0.27
NO _x	n/a	17.18
CO	n/a	4.56
VOC	n/a	0.54

- F. Generator 1, 2, 3, 4 and 5 each shall be limited to 500 hours per year of operation, based on a 12 month rolling total. An hour meter shall be maintained and operated on each emergency diesel generator.
- G. The sulfur content of the fuel shall be less than or equal to 0.05% by weight, demonstrated by fuel receipts from the supplier.
- H. A log documenting the dates, times and reasons for operation for each generator shall be kept.
- I. Visible emissions from each emergency generator shall not exceed 20% opacity on a six (6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.

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- J. Generators 1, 2, 3, 4 and 5 may be operated periodically for test purposes, planned utility maintenance power outages and during emergencies (as defined in Chapter 100 of the Department's regulations). National Semiconductor shall not operate Generators 1, 2, 3, 4 or 5 as Dispatchable Load Generators (load shedding).

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2004.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-698-71-L-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 12, 2004

Date of application acceptance: April 14, 2004

Date filed with the Board of Environmental Protection: _____

This order prepared by Mark E. Roberts, Bureau of Air Quality